



ABSTRACT

5 A process for the heterotrophic or predominantly heterotrophic production of whole-celled or extracted microbial products with a high concentration of omega-3 highly unsaturated fatty acids, producible in an aerobic culture under controlled conditions using biologically pure cultures of heterotrophic single-celled microorganisms of the order Thraustochytriales. The harvested whole-cell microbial product can be added to processed foods as a nutritional supplement, or to fish and animal feeds to enhance the omega-10 3 highly unsaturated fatty acid content of products produced from these animals. The lipids containing these fatty acids can also be extracted and used in nutritional, pharmaceutical and industrial applications.